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10/595,245	03/29/2006	Hyung-Nam Choi	P33779US	5479

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EXAMINER

PEACHES, RANDY

ART UNIT	PAPER NUMBER
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2617

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/595,245	Applicant(s) CHOI, HYUNG-NAM	
	Examiner RANDY PEACHES	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) claims 19, 21-33 and 35-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) claims 19, 21-26, 28-31, 33 and 35-45 is/are rejected.
- 7) ☒ Claim(s) 27, 28 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. ***Claim 45*** is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim teaches of *“a transport block being introduced at the MAC layer level for the in-band signaling of information relevant to the UMTS base station...”*, of which is not processed by a tangible means. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. ***Claims 19, 21-26, 29-31, 33 and 35-44*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (U.S. Patent Number 7,359,345 B1) in view of 3GPP TS 25.321 version 5.6.0, hereinafter referenced as 3GPP..

Regarding ***claim 19***, Chang et al. discloses the signaling between the MAC transmitting entity and the MAC receiving entity operating in accordance with the Universal Mobile

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Telecommunications System standard (UMTS), comprising performing in-band signaling, whereby Chang et al. teaches in that a MAC signaling message is sent containing both control and signaling information (see column 6 lines 30-34), of information relevant to the UMTS base station (BS) at the MAC layer level. See column 6 lines 25-39. Chang et al. continues to disclose wherein introducing a plurality of signaling transport blocks (STB) for signaling between a user terminal equipment (UE) and a particular UMTS base station (BS) at the MAC layer level. See column 8 lines 50-67, column 9 lines 11-27 and FIGURE 11.

However, Chang fails to clearly render sufficient support as to the in-band signaling between a user terminal equipment (UE) and a respective UMTS base station (BS) a signaling transport block is introduced at the MAC layer level, wherein the signaling transport block comprises Buffer Status Report information signaling the data volume of the transport channel from the user terminal equipment (UE) to the UMTS base station (BS) at the MAC layer level.

3GPP discloses in section 8.2.1 teaches of the following:

8.2.1 Primitives

The primitives between MAC layer and RLC layer are shown in table 8.2.1.1.

Table 8.2.1.1: Primitives between MAC layer and RLC layer

Generic Name	Parameter			
	Request	Indication	Response	Confirm
MAC-DATA	Data, BO, UE-ID type indicator, RLC Entity Info	Data, No_TB, TD (note), Error indication		
MAC-STATUS		No_PDU, PDU_Size, TX status, Status_Report_REQ	BO, RLC Entity Info	
NOTE: TDD only.				

MAC-DATA-Req/Ind:

- MAC-DATA-Req primitive is used to request that an upper layer PDU be sent using the procedures for the information transfer service;
- MAC-DATA-Ind primitive indicates the arrival of upper layer PDUs received within one transmission time interval by means of the information transfer service.

MAC-STATUS-Ind/Resp:

- MAC-STATUS-Ind primitive indicates to RLC for each logical channel the rate at which it may transfer data to MAC. Parameters are the number of PDUs that can be transferred in each transmission time interval and the PDU size; it is possible that MAC would use this primitive to indicate that it expects the current buffer occupancy of the addressed logical channel in order to provide for optimised TFC selection on transport channels with long transmission time interval. At the UE, MAC-STATUS-Ind primitive is also used to indicate from MAC to RLC that MAC has requested data transmission by PHY (i.e. PHY-DATA-REQ has been submitted, see Fig. 11.2.2.1), or that transmission of an RLC PDU on RACH or CPCH has failed due to exceeded preamble ramping cycle counter.
- MAC-STATUS-Resp primitive enables RLC to acknowledge a MAC-STATUS-Ind. It is possible that RLC would use this primitive to indicate that it has nothing to send or that it is in a suspended state or to indicate the current buffer occupancy to MAC.

Therefore, at the time the invention was made one of ordinary skill in the art would have modified Chang to include the 3GPP in order to provide a means for the volume of the of the transport channel to be included in the signaling transport block.

Regarding **claim 21**, as the combination of Chang and 3GPP are made, the combination according to **claim 19**, Chang et al. continues to disclose wherein at least one signaling transport block (STB) is multiplexed within the transport blocks of a

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transport channel that are to be transmitted. See column 6 lines 47-50 and FIGURE 19, column 11 lines 58-67.

Regarding **claim 22**, as the combination of Chang and 3GPP are made, the combination according to **claim 19**, Chang et al. continues to disclose wherein a dedicated or common transport channel is used. See column 9 lines 3-10.

Regarding **claim 23**, as the combination of Chang and 3GPP are made, the combination according to **claim 190**, Chang et al. continues to disclose wherein at least one signaling transport block (STB) transmits, in the field (TN UL), an uplink transmission number which is used for tracking the transmission status in the uplink, said field being k bits long. See FIGURE 17, column 11 lines 35-43.

Regarding **claim 24**, as the combination of Chang and 3GPP are made, the combination according to **claim 19**, Chang et al. continues to disclose wherein at least one signaling transport block (STB) transmits, in a field (TN DL), a downlink transmission number which is used for tracking the transmission status in the downlink, said field being k bits long. See FIGURE 13 and 14, column 9 lines 28-53.

Regarding **claim 25** as the combination of Chang and 3GPP are made, the combination according to **claim 19**, Chang et al. continues to disclose wherein at least one signaling transport block (STB) transmits a field (Poll) in order to request an

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acknowledgment of successful transmission of a signaling transport block within a specified time from the receiver, said field being k bits long. See column 12 lines 20-28.

Regarding **claim 26**, as the combination of Chang and 3GPP are made, the combination according to **claim 19**, Chang et al. continues to disclose wherein at least one signaling transport block (STB) transmits a field (MT) in which a message type is specified which is transmitted in the following message part, said field being 1-bit coded, whereby an indication bit details whether a MAC PDU or MAC SDU is being transmitted. See column 8 lines 50-61.

Regarding **claim 29**, as the combination of Chang and 3GPP are made, the combination according to **claim 19**, Chang et al. continues to disclose wherein a signaling transport block (STB) transmits a field (Pad) which is used for padding out the unused part in the MAC Service Data Unit (MAC SDU) with dummy bits. See FIGURE 12.

Regarding **claim 30**, as the combination of Chang and 3GPP are made, the combination according to **claim 19**, Chang et al. continues to disclose wherein comprising exchanging, in the signaling transport block (STB), various radio resource control messages between the base station (BS) and a user equipment (UE). See column 6 lines 40-57.

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Regarding **claim 31**, as the combination of Chang and 3GPP are made, the combination according to **claim 19**, Chang et al. continues to disclose wherein comprising introducing, in the MAC header, a data field (D/C) that indicates the type of a particular transport block. See column 8 lines 35-44.

Regarding **claim 33**, Chang et al. discloses a communication system, comprising:

- at least one base station (BS), which is controlled by a higher-order radio network control entity (RNC). See column 9 lines 28-53; and
- a radio cell (CE) served by the base station (BS) in which there exists a communications connection between the base station (BS) and at least one user terminal equipment (UE) over an air interface (Uu) with a UMTS protocol structure. See column 4 lines 50-67 and column 5 line 1-13;
- wherein a plurality of RRC functionalities are disposed in the form of at least one control and/or data processing means transferred the radio network control entity RNC to the base station (BS). See column 5 lines 60-67 and column 6 lines 1-9

Regarding **claim 35**, as the combination of Chang and 3GPP are made, the combination according to **claim 33**, Chang et al. continues to disclose wherein comprising a plurality of special signaling transport blocks (STB) and two different transport block formats are provided, MAC PDU and MAC SDU. See column 8 lines 50-61.

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Regarding **claim 36**, as the combination of Chang and 3GPP are made, the combination according to **claim 19**, Chang et al. continues to disclose wherein a memory for storing instructions that when executed by a data processing system, allows said data processing system, in conjunction with a communication system to appropriately implement according to a UMTS standard. See ABSTRACT and column 6 lines 25-39.

Regarding **claim 37**, as the combination of Chang and 3GPP are made, the combination according to **claim 20**, 3GPP continues to teach in section 4.3.2.3, wherein the dedicated transport channel is a DCH.

Regarding **claim 38**, as the combination of Chang and 3GPP are made, the combination according to **claim 19**, 3GPP continues to teach in section 8.2.2, wherein the information comprises one or more of the following list:

- information for a user equipment to reconfigure the physical channels in the uplink and the downlink; information for a user equipment to reconfigure the transport format and transport format combinations in the uplink and downlink;
- ***information for a user equipment about the buffer status of the radio bearers or logical channels which are multiplexed into the transport channel.***

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Regarding **claim 39**, as the combination of Chang and 3GPP are made, the combination according to **claim 19**, 3GPP continues to teach in section 4.3.2.3, wherein the signaling transport block is transmitted using CDMA via an air interface.

Regarding **claim 40** as the combination of Chang and 3GPP are made, the combination according to **claim 19**, 3GPP continues to teach in section 9.2.1, wherein the signaling transport block is transmitted in FDD mode.

Regarding **claim 41** as the combination of Chang and 3GPP are made, the combination according to **claim 19**, 3GPP continues to teach in section 6.1, wherein the signaling transport block is transferred to the physical layer.

Regarding **claim 42** as the combination of Chang and 3GPP are made, the combination according to **claim 19**, 3GPP continues to teach in section 4.3.2.3, wherein the in-band signaling is carried out for one or more of the following RRC functions of the base station:

- reconfiguration of physical channels in the uplink and downlink;
- **reconfiguration of the transport formats and the transport format combinations in the uplink and downlink;**
- switching of the transport channel type, i.e. from common transport channels to dedicated transport channels and vice versa;

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- setting of the uplink SIR target for fast performance control of dedicated physical channels.

Regarding **claim 43** as the combination of Chang and 3GPP are made, the combination according to **claim 19**, 3GPP continues to teach in section 4.3.2.3, wherein a transport channel is selected for transmitting the signaling transport blocks.

Regarding **claim 44** as the combination of Chang and 3GPP are made, the combination according to **claim 19**, 3GPP continues to teach in section 9.2.31, wherein a transmission counter is increased by 1 after sending the signaling transport block.

Allowable Subject Matter

Claims 27-28 and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to **claims 19, 21-33 and 35-45** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **RANDY PEACHES** whose telephone number is (571) 272-7914. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Randy Peaches/
Examiner, Art Unit 2617

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617